

FFI Technology Development Center - Software Development

Per Helge Andersen

Abstract

FFI's contribution to the IVS as a Technology Development Center focuses primarily on the development and validation of the GEOSAT software for a combined analysis at the observation level of data from VLBI, GPS, and SLR. This report briefly summarizes the latest improvements of the GEOSAT software. FFI is currently an Analysis Center for IVS and ILRS, and a Technology Development Center for IVS.

1. The GEOSAT Software

FFI's contribution to the IVS as a Technology Development Center focuses primarily on the development and validation of the GEOSAT software for a combined analysis at the observation level of data from VLBI, GPS, and SLR. The advantages of the combination of independent and complementary space geodetic data at the observation level is discussed in Andersen ([1]).

The Norwegian Mapping Authority (NMA) and FFI have started a close cooperation in the analysis of space geodetic data using the GEOSAT software. Dr. Per Helge Andersen is responsible for the maintenance of the software. He will also implement a module for the analysis of GRACE data in the software. NMA has employed Dr. Eirik Mysen for model development and implementation in GEOSAT of spaceborne accelerometry and gradiometry, e.g. using data from GOCE. NMA has also employed Dr. Kristian Breili to update the module in GEOSAT for the analysis of satellite altimetry data. The plan is to combine GOCE (gradiometer, GPS, SLR), GRACE (GPS, K-Band range/range difference SST, SLR), Jason (GPS, altimetry, SLR), GPS, LAGEOS and VLBI at the observation level. Data from other satellites may be included later.

2. Staff

Dr. Per Helge Andersen—Research Professor of Forsvarets forskningsinstitutt (FFI) and Institute of Theoretical Astrophysics, University of Oslo.

References

- [1] Andersen, P. H. Multi-level arc combination with stochastic parameters. *Journal of Geodesy* (2000) 74: 531-551.